

## **Dipole moments of organophosphorus compounds. 16. Conformations of trimethylsilyl groups in some phosphites, phosphates, and phosphonates**

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### **Abstract**

1. A study has been made of the dipole moments, Kerr constants, and IR spectra of silicon-containing phosphites, phosphates, and phosphonates. 2. The silicon-containing phosphates and phosphonates exist as equilibrium mixtures of various conformers, the predominant form being that in which the P=O (S, Se) and (CH<sub>3</sub>)<sub>3</sub>SiO groups are in cis orientation. 3. The trimethylsilyl group preferentially occupies a gauche position with respect to the unshared electron pair of the phosphorus atom in compounds containing phosphorus in three-coordination. © 1978 Plenum Publishing Corporation.

<http://dx.doi.org/10.1007/BF00923867>

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